ASARCO

Susan Zazzali
RCRA Project Manager
Montana Office
US EPA Region VIII
301 South Park, Drawer 10096
Helena, Montana 59626

August 8, 2001

SENT BY CERTIFIED MAIL
RETURN RECEIPT REQUESTED

CONSENT DECREE
CIVIL ACTION NO. CV 98-3-H-CCL
EAST HELENA SITE
WORK PERFORMED IN JULY 2001
PROGRESS REPORT #39

Dear Ms. Zazzali:

On May 5, 1998, Asarco Incorporated (Asarco) and the United States Environmental Protection Agency (EPA) entered into a Consent Decree (Decree) to further the objectives of the Resource Conservation and Recovery Act (RCRA) and the Clean Water Act (CWA). Section XI of the Decree (Reporting: Corrective Action) requires Asarco to submit certified monthly progress reports to EPA which discuss the actions taken by Asarco in achieving compliance with the Decree. The reports are to be submitted to EPA no later than the twentieth (20^{th}) day of the following month. The following describes only those activities that have occurred or are related to projects performed during July 2001. The historical actions taken by Asarco is achieving compliance with the Decree are contained in previous monthly progress reports.

a. Describe the actions, progress, and status of projects which have been undertaken pursuant to Part VII of the Decree;

In July 2001, Asarco mailed one certified letter to Gene Gage requesting access to collect a groundwater sample from the residential well located at 210 East Groschell Street. The executed access agreements has been signed and returned. A copy of this executed access agreement is attached to this progress report.

On July 3, 2001, EPA provided informal comments to Asarco relating to the Phase 1 CAMU clay-rich soil delineation testing for the compacted clay liner (CCL) construction. One of concerns expressed in the comments related to the volume of clay necessary to construct the CAMU liner and cover. It was

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originally believed that sufficient clay-rich material was available to complete the all components of the CAMU landfill. However, following a closer review of the compaction rates and existing quantities, it was determined that the excavated volume of the clay-rich material may be insufficient. In a letter dated July 26, 2001 from Mike Oelrich to you, Asarco acknowledged the fact that native clay-rich soil may be limited and provided preliminary information that supported the use of a geosynthetic clay liner (GCL) as a replacement to the compacted clay liner portion of the cap composite liner. Asarco will be providing revised GCL specifications to EPA in early August 2001.

On July 11, 2001, Asarco received correspondence from the EPA Office of Research and Development relating to studies that will provide information needed to access the possible performance of a pilot-scale subsurface permeable reactive barrier (PRB). On July 12, Jon Nickel, Bill Thompson, and you participated in a telephone conference call with Richard Wilkin and Steven Acree to discuss the proposed work plan for performing several preliminary field activities. It was agreed that Hydrometrics would provide assistance in the placement of the groundwater flow meters in existing wells and will develop a cost for EPA to install the required monitoring wells. Hydrometrics has provided the East Helena site safety and health plan to Dr. Wilkin. A site visit to the Asarco East Helena Plant by the EPA Research and Development team is tentatively scheduled for late August 2001. In a letter dated July 16, 2001 from you to Jon Nickel, EPA will allow Asarco to postpone sparge field tests until after EPA concludes the field work related to the PRB project.

In a letter dated July 12, 2001 from Jon Nickel to you, Asarco requested EPA's approval to place newly identified remediation-type wastes in the CAMU landfill. On July 16, 2001, Jon Nickel, Adel Johnson (Montana Department of Environmental Quality), and you reviewed the locations of these waste piles.

A summary of the correspondence transmitted as part of the East Helena Consent Decree in July 2001 is included in Attachment 1.

b. Identify any requirements under the Part VII of the Decree that were not completed in a timely manner, and problems or anticipated problem areas affecting compliance with the Decree;

During June 2001, the soil borings proposed to be collected within the footprint area of former Thornock Lake could not be accessed with the drill rig because of steep side slopes and overhead and subsurface utilities. As an alternative, these soil borings were scheduled to be completed with a long reach backhoe rather than a drill rig. During the month of July 2001, the soil borings in the former Thornock Lake area (RFI-SB1 and RFI-SB2) was completed using an excavator. The short delay in collecting these soil borings will not impact the RCRA Facility Investigation data collection timetable.

The installation of the CCL for the CAMU landfill was initiated in July 2001. After installing approximately eighteen inches of compacted clay-rich material, it was discovered that excessive oversized material was present within the CCL. On July 3, 2001, in response to this deviation in the CAMU design specifications, Envirocon began removing all but the lower six inches of the installed CCL. On July 5, 2001, a screening plant was commissioned to remove material greater than two inches from the clay-rich material prior to placement in the CAMU landfill. On July 19, 2001, the screens were changed to remove material greater than one inch for the upper six inches of the CCL. The need to screen the clay-rich material coupled with the excessive rain days that were encountered in July 2001 have comprised the CAMU landfill project schedule by approximately 30 days. The completion of the CAMU landfill is now scheduled for November 2001. Asarco is hopeful that additional delays will not be encountered that affected the final completion date of the CAMU landfill.

In late July 2001, field measurements determined a shortage of clay-rich material needed to complete the compacted clay cap on top of the CAMU landfill. Through discussions and correspondence with EPA, Asarco has requested replacing the 2-foot compacted clay cap with a geosynthetic clay liner (GCL). GCL specifications have been submitted to EPA for consideration.

c. Describe projects completed during the prior month, as well as activities scheduled for the next month;

In accordance with the March 2000 Groundwater Source Control Interim Measures Design Analysis, Plans, and Specification report, the speiss handling area and the former acid plant sediment drying area are being inspected monthly with the last inspection occurring on July 9, 2001. This monthly inspection documented the condition of the interim measures. The inspection confirmed that all scheduled interim measures were in place.

Phase III Sparge Testing – During July 2001, three additional monitoring wells were installed in the sparge test area. These wells will be developed in August 2001. An interim summary report that describes the results of the Phase III sparge bench test and design analysis is being prepared.

In late July 2001, Asarco and Hydrometrics re-initiated discussed with EPA relating to plans to conduct field studies in August 2001 as part for the PRB investigation. As a follow-up to those discussions, EPA provided instructions to Hydrometrics on installation of water sampling equipment. On July 30, 2001, Hydrometrics assisted EPA in installing sampling equipment in monitoring wells STW-1, DH-50 and EH-24. On July 31 2001, Hydrometrics participated in a conference call with EPA to discuss well completion options for EPA's proposed monitoring wells and to finalize well locations. EPA has proposed to install two monitoring wells between existing wells DH-17 and STW-1 for purposes of their

investigation. Arrangements for drilling of these wells still need to be finalized, but drilling is tentatively scheduled for August 8-9, 2001

In a letter dated July 16, 2001 from you to Jon Nickel, EPA will allow Asarco to postpone sparge field tests until after EPA concludes the field work related to the permeable reactive barrier (PRB) project. Start-up of the sparge system has been postponed until December 2001 to avoid conflicts with the EPA's PRB field investigation.

CAMU Landfill - The construction of the CAMU landfill is proceeding with the following activities completed in July 2001 summarized below. Envirocon has completed approximately 43% of the project work.

- Excavation of the CAMU cell was completed and the subgrade was compacted and prepared to receive compacted clay liner (CCL).
- Quantity and verification surveys were conducted,
- Envirocon has installed approximately 90% of the CAMU CCL,
- Approximately 80% of the secondary 60-mil HDPE liner and lower geonet have been installed,
- QA/QC data is being sent to EPA as it is received,
- Continuous inspection of CAMU cell CCL is being conducted with field nuclear density tests, lab proctors, Atterberg limits and grain size distribution tests being performed, as required,
- Confirming excavation elevations to insure compliance with project plans and specifications,
- Continuous inspection of HDPE and geonet installations,
- Samples of seams sent to Precision Geosynthetic Lab, as required by the specifications,
- Review of quantity surveys and QA/QC test results,
- Analyses of the volumes of clay-rich soils, per EPA comments on the Clay-Rich Soil Delineation Report, and
- Review, comments and recommendations on all contractor submittals, approved contractual submittals included geomembrane liner submittals, including 40 mil and 60 mil HDPE, geonet, and associated geotextiles.

During the month of August 2001, Envirocon is scheduled to complete the installation of the 60 mil HDPE liners, geonet and associated geotextile. The leachate collection and removal systems will be installed. Envirocon is scheduled to begin loading and hauling waste materials from the Asarco plant site and placing and compacting the waste materials in the CAMU landfill in early to mid-August 2001. The haul road maintenance and dust control activities associated with hauling will be conducted.

RCRA Facility Investigation (RFI) - During July 2001, the soil borings in the former Thornock Lake area (RFI-SB1 and RFI-SB2) were completed using an excavator. The RFI Work Plan originally called for drilling soil borings at these locations with a drill rig, however, limited access and utility constraints required

an alternate approach. This task completed the proposed RFI soil sampling with the exception of a few remaining samples in soil stockpile areas that will be completed after these stockpiles have been moved to the CAMU landfill. During August 2001, Asarco will be selecting samples for leachability testing in accordance with the RFI Work Plan.

Sampling and aquifer testing of the new RFI monitoring wells were conducted and completed in early July 2001. The reduction and analysis of the aquifer test data were initiated in July 2001 and will continue in August 2001.

Groundwater samples were collected at all of the residential wells identified as operational during the domestic well inventory investigation. Through the month of July 2001, twenty-five residential groundwater wells were sampled. Thirteen of these wells have been reported to be used for drinking water and/or irrigation, five of the wells have been reported to be used for irrigation only, and seven of the wells have been reported to be used for fire protection or industrial use. Follow-up sampling will be conducted in early August 2001 at several remaining residential sites that are currently non-operational, but which may still be accessible for sampling using a portable pump.

d. Describes, and estimates the percentage of studies completed;

The Statement of Work for the East Helena Plant Supplemental Environmental Project (SEP) for the Lower Lake is 100% complete.

The Current Conditions/Release Assessment (CC/RA) report is 100% complete.

The Plant Water Investigation Report is 100% complete.

The Interim Measures Work Plan is 100% complete.

The Groundwater Source Control Interim Measures Design Analysis, Plans, and Specification report for the evaluation of source controls in the speiss handling area and former acid plant sediment drying area is 100% complete.

The sources control measures presented in the March 2000 Groundwater Source Control Interim Measures Design Analysis, Plans, and Specification report for the speiss handling area and former acid plant sediment drying area are 100% complete.

The installation of the Interim Measures Work Plan groundwater monitoring well is 100% complete.

The XRF analysis of soil samples collected from groundwater monitoring wells is 100% complete.

The May 2000 Supplemental Groundwater Investigation report is 100% complete.

The installation of an air sparging system for pilot testing is 100% complete and the initial air sparge testing is 100% complete. The Phase III pilot test is getting underway.

The Interim Measures Work Plan acid plant spill reduction plan is 100% complete.

The Interim Measures Work Plan acid plant spill containment plan is 100% complete.

The Lower Lake sediment and soil stockpile sampling is 100% complete.

The XRF analysis of the soil stockpiles and Shew Ridge samples is 100% complete.

The TCLP analysis of the soil stockpile samples is 100% complete.

The TCLP analysis of Shew Ridge soil samples is 100% complete.

The RCRA Facility Investigation was approved by EPA in a letter dated April 19, 2001.

The May 2000 Supplemental Sediment and Soils Stockpile Data Report is 100% completed.

The CAMU infiltrometer testing is 100% complete.

The CAMU final design analysis is 100% complete.

The CAMU plans and specifications are 100% complete.

The site survey and soil sampling for the CAMU is 100% complete.

The CAMU landfill construction is approximately 19% complete.

The original bench-scale testing program for the Phase III air sparge test is 100% complete. The testing has been expanded to include additional column tests. The additional testing is 100% complete.

RCRA Facility Investigation soils test pits in unpaved areas and backhoe sampling at 47 locations is 100% complete.

RCRA Facility Investigation monitoring well installations and development is 100% complete.

RCRA Facility Investigation soils test pit sampling and shallow soil borings in paved area and rail corridor area is 100% complete.

RCRA RFI water sampling of Prickley Pear Creek, Wilson Irrigation Ditch, and ponded water within the facility is 100% complete.

RCRA RFI groundwater sampling is 100% complete.

RCRA RFI residential groundwater well inventory and sampling is 95% complete.

e. Describe and summarize all findings to date;

The details of past findings through June 2001 are described and summarized in previous monthly progress reports.

The groundwater quality results from residential wells are being validated. The preliminary results are consistent with previous sampling data for City of East Helena domestic wells. The arsenic was below detection in all of the residential wells with the exception of three locations that have historically had arsenic present. These locations include the one St.Clair well (which is a shallow hand dug well in City of East Helena north of the plant site) and the two Hulst wells (which are located west of the plant site). The arsenic concentration in the St.Clair well was 0.080 mg/L (May 2001) and 0.035 mg/L (July 2001) while the arsenic concentrations in the two Hulst wells were 0.018 mg/L and 0.019 mg/L. The Hulst well sample results indicate similar arsenic concentrations that are observed in monitoring wells in the CAMU area beneath the ash unit. These concentrations are consistent with historical data and show no significant trends. Finally, the water sampled collected in June 2001 from the groundwater well located at the Air Liquide oxygen plant registered an arsenic concentration of 0.013 mg/L.

Per EPA requirements, seven representative samples of the clay-rich soil that will be used to construct the compacted clay liner (CCL) were collected from the clay-rich soil stockpile and have been sent to the HWA Laboratory in Tacoma, Washington for completion of hydraulic conductivity tests (including associated Atterberg Limits and Proctors). The test results have been received for three of the samples with the remaining four hydraulic conductivity tests still pending. Hydraulic conductivity of the three completed samples was 4.4×10^{-8}, 5.9×10^{-8} and 4.5×10^{-7}. All hydraulic conductivity results are within project specifications for CCL.

f. Describe actions being taken to address problems;

Envirocon has secured the use of a screen to remove oversized material from the clay-rich material. Asarco has proposed using a geosynthetic clay liner (GCL) to replace the 2-foot compacted clay cap on the CAMU landfill. Envirocon has worked weekends during the month of July 2001 (excluding the rain-out days) in an attempt to recover lost time.

g. Identify changes in key personnel during the period;

Hydrometrics continues to perform the corrective action portion of the Consent Decree at the Asarco East Helena Plant. Specifically, corrective action performed at the East Helena Plant will be administered under the direction of Robert Miller, Hydrometric's Corporate Technical Manager.

h. Include copies of the results of sampling and tests conducted and other data generated pursuant to work performed under Part VII of the Decree since the last Progress Report. Asarco may submit data that has been validated and confirmed by Asarco to supplement any prior submitted data. Updated validated and confirmed data shall be included with the RFI Report, if not delivered before;

The raw analytical data has been received from the laboratory for most of the soil sampling sites. Data validation of these results is in progress. Groundwater quality data for residential wells sampled as part of the RFI Work Plan have been received and are summarized as an attachment (table and map) to this progress report.

i. Describe the status of financial assurance mechanisms, including whether any changes have occurred, or are expected to occur which might affect them, and the status of efforts to bring such mechanisms back into compliance with the requirements of this Decree.

In a letter dated December 15, 2000 from Robert Ferri, Asarco Vice President, Asarco verified that it passed the financial tests specified in Section VII under the Consent Decree, CV 98-3-H-CCL.

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CERTIFICATION
PURSUANT TO U.S. v ASARCO INCORPORATED
(CV-98-3-H-CCL, USDC, D. Montana)

I certify under penalty of law that this document, July 2001 Progress Report and all attachments, were prepared under my direct supervision in accordance with a system designed to assure that qualified personnel gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.

Signature _____
Name: Douglas E. McAllister
Title: Vice President
Date: August 8, 2001

CONSENT DECREE
EAST HELENA SITE
JULY 2001 PROGRESS REPORT

SUMMARY OF CORRESPONDANCE

ATTACHMENT 1

DATE OF TRANSMITTAL	CORRESPONDANCE SENT FROM	CORRESPONDACE SENT TO	SUBJECT	RESPONSE
July 12, 2001	Jon Nickel	Susan Zazzali	Approval to Place Newly Identified Remediation-Type Waste in CAMU Landfill	Awaiting EPA Response
July 26, 2001	Mike Oelrich	Susan Zazzali	Preliminary Information on Use of Geosynthetic Clay Liner	Awaiting EPA Response

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CONSENT DECREE
EAST HELENA SITE
JULY 2001 PROGRESS REPORT

City of East Helena Residential Well Sampling Access Agreement

ACCESS AGREEMENT

ASARCO		OWNER	
Asarco, Incorporated		Gene Gage	
100 Smelter Avenue		210 East Groshell	
P. O. Box 1230		P. O. Box 731	
East Helena, Montana	56963	East Helena, Montana	59635

RECITAL:

A. On May 5, 1998, Asarco Incorporated and the United States Environmental Agency entered into a Consent Decree (Civil Action No. CV 98-3-H-CCL) to further the objectives of the Resources Conservation and Recovery Act and the Clean Water Act. Pursuant to this Consent Decree and as part of the ongoing RCRA Facility Investigation (RFI), Asarco has agreed to conduct certain activities (as defined as "Work") including, but not limited to, determining the location of existing wells, evaluating access constraints, and collecting of residential groundwater quality samples. Your property, as defined in paragraph 1 below, has been identified as a location where a groundwater well is present.

B. In order to perform the Work, Asarco requires access to your Property.

C. This executed Access Agreement shall be incorporated by reference into the Consent Decree.

AGREEMENT:

For good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties agree as follows:

1. Description of Property. Owner warrants that the Owner is the owner of real property located within the City of East Helena, County of Lewis and Clark, State of Montana (the "Property") that is located at 210 E. Groshell.

2. Grant of Access. Owner grants Asarco the right to enter the Property for the purpose of performing the Work.

3. Availability of Access. Asarco shall have access to the Property at all reasonable times and continue for the duration of the Access Agreement solely for the purpose of carrying out the terms of this Access Agreement. Owner shall not interfere with the Work.

4. Sampling Results. Samples collected during the Sampling shall not be returned to Owner. Owner shall receive a copy of the results of any testing done in connection with the Sampling.

5. Expense. Asarco shall pay the expense of performing the Work.

6. Duration. This Access Agreement shall remain in effect from the date hereof until the completion of the Work. Asarco does not guarantee that the Work will be completed by any given date.

7. Access to Asarco Representatives. All rights granted to Asarco under this Access Agreement shall also apply to Asarco's agents, contractors, and subcontractors who are performing the Work.

8. Additional Access for Inspection and Project Oversight. Owner grants EPA and the State of Montana and its agents, contractors, and subcontractors, the right to enter the Property at all reasonable times pursuant to Paragraph 3 of this Access Agreement for the purpose of inspecting site conditions, activities, and the results of activities undertaken by Asarco while performing the Work.

9. Asarco not an EPA and/or State of Montana Representative. Asarco is not, and shall not be deemed to be, a representative or agent of EPA and/or the State of Montana with respect to liability associated with the Work.

10. No Incidental or Consequential Damages. Neither Asarco nor Owner may recover incidental or consequential damages in any legal proceedings instituted in connection with the Access Agreement.

11. Miscellaneous. This Access Agreement constitutes the complete agreement between the parties with respect to the subject matter hereof and supercedes any prior agreements or understandings, oral or written. No waiver under this Access Agreement shall be valid unless it is given in writing and duly executed by the party to be charged therewith. This Access Agreement shall not effect the other provisions hereof and this Access Agreement shall be construed as if such invalid or unenforceable provision were omitted. This Access Agreement shall be to the benefit of and be binding upon the parties and their respective successors and assigns. This Access Agreement shall be governed by and interpreted in accordance with the internal laws of the State of Montana. This Access Agreement shall be effective as of the date above written.

OWNER:

By: Gene Gage
Date: 7-7-01

ASARCO:

By:
Its: Plant Manager

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CONSENT DECREE
EAST HELENA SITE
JULY 2001 PROGRESS REPORT

Groundwater Quality and Site Location Map
from City of East Helena Residential Wells

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East Helena Private Water Wells

Investigation for East Helena Comprehensive Domestic Well Owner Information

Well Owners Name	Address	Sample Number	Well status	Use of well	pH	Temp C	SC	DO	ORP	Arsenic (Dissolved) (ppm)*	Arsenic 3 (ppm)*	Arsenic 5 (ppm)*	Description and Comments
American Chemet #1	1 Smelter Road	EHC-0106-100	Operating	Plant water	7.22	18.5	730	1.56	129.1	<.005	<.005	<.005	Plant water
American Chemet #3	1 Smelter Road	EHC-0106-142	Operating	Scrubber water cool down	7.34	11.8	306		225.6	<.005	<.005	<.005	Sample taken from frost free shed next to plant.
American Chemet #4	1 Smelter Road	EHC-0105-100	Operating	Plant water	7.46	--	308	--	--	<.005	<.005	<.005	Plant water
Asarco Housing	300 South Montana	No Sample	No Well	NA	--	--	--	--	--	--	--	--	No well
Asarco Housing	416 South Montana	No Sample	No Well	NA	--	--	--	--	--	--	--	--	No well
Berry, Robert	317 Gail	EHC-0106-103	Out of service	NA	7.19	14.2	1852	--	202.4	Pending	Pending	Pending	Not in use. Pump still wired and could possibly operate again. Purged 100 gallons out of well then sampled with 12 volt pump on 8-3-01.
Brown, Norman (formally Hoff)	409 Gail	No Sample	Out of service	NA	--	--	--	--	--	--	--	--	Attempted to measure static water level. Well was dry to 36 feet. The SWL in 1963 was 20 feet below ground.
Carlson, Robert	1 Gail	EHC-0106-143	Operating	Drinking water and irrigation	7.71	12	274	--	145	<.005	<.005	<.005	Taken from faucet outside garage. Well located inside garage.
Carpenter, Scott (formally Walter)	7 Gail	EHC-0106-144	Not Used	Has not used well in past year.	7.4	12.1	285	--	226.8	<.005	<.005	<.005	Well ran for 25 minutes and then ran dry. Water color was black.
Copeland, Mike and Jo	502 King	No Sample	Out of service	NA	--	--	--	--	--	--	--	--	No electricity to well because wiring was cut during construction.
Cox, Esther	303 Thurman	EHC-0106-107	Operating	Drinking water and irrigation	6.06	12.9	483	--	160.7	<.005	<.005	<.005	Well located inside house. Well was originally 30 feet deep but was later deepened. Hand dug in 1931.
Duel, Dave (formerly Wiebeck)	3 Gail	EHC-0106-109	Operating	Drinking water and irrigation	7.73	12.2	328	--	144.7	<.005	<.005	<.005	Taken from faucet outside house, didn't what us to open up well and get dirt in well.
Flage, Ben	9 Gail	EHC-0106-113	Operating	Drinking water and irrigation	7.42	13	287	5.23	145.7	<.005	<.005	<.005	Sample taken from hose in backyard.
Fleisner, Frank (formally Marion)	405 Gail	No Sample	Out of service	NA	--	--	--	--	--	--	--	--	Refused to sample
Fox, Jean (formally Ernst)	319 Gail	EHC-0106-112	Out of service	NA	7.87	15.1	699	--	231.2	Pending	Pending	Pending	Well located under large lilac bush. Sampled with 1 inch bailer. Well was bailed 55 times before sampled.
Germaine, Eli A St.	126 East Clinton	EHC-0106-139	Operating	Drinking water only	7.07	12.1	403	--	153.3	<.005	<.005	<.005	House well used for potable water.
Germaine, Eli A St.	126 East Clinton	EHC-0106-140	Operating	Irrigation only	6.91	10.7	427	--	167.3	<.005	<.005	<.005	Well used for irrigation only. Well located inside shed and not accessible for water level measurement.
Glarde, Chris	202 West Main	No Sample	Out of service	NA	--	--	--	--	--	--	--	--	Well is under deck in back yard, no access
Helfert, Josephine	504 Porter	No Sample	No Well	NA	--	--	--	--	--	--	--	--	No well
Helfert, Wayne	407 Porter	EHC-0106-114	Operating	Drinking water and irrigation	6.74	11.7	369	3.34	221.2	<.005	<.005	<.005	Sample taken from outside faucet. Top cap was missing and replaced on 7-11-01.
Huckert, John	115 East Groschell	No Sample	No Well	NA	--	--	--	--	--	--	--	--	No well
Hulst, Darlen	West of East Helena	EHC-0105-165	Operating	Drinking water	7.44	--	548	--	--	0.018	0.019	<.005	
Hulst, Darlen	West of East Helena	EHC-0105-230	Operating	Drinking water	7.75	--	544	--	--	0.018	0.015	<.005	Duplicate
Hulst, Leonard	West of East Helena	EHC-0105-179	Operating	Irrigation only	7.9	--	446	--	--	0.019	0.017	<.005	
Jensen, David	401 Gail	No Sample	Operating	Drinking water and irrigation	--	--	--	--	--	--	--	--	Well owner refused access for sampling.
Lamping, Fred	316 North Montana	EHC-0106-121	Operating	Drinking water	7.36	13.8	314	2.73	144.3	<.005	<.005	<.005	Well used for potable water supply. City water used for watering lawn. Well located inside of house. No SWL taken.
Lamping, Rick	201 Gail	No Sample	Out of service	NA	--	--	--	--	--	--	--	--	Pump burned out, doesn't care if take water sample at later date.
Lewing, Ed and Sally	607 Lewis	EHC-0106-141	Operating	Drinking water and irrigation	6.7	11.8	467	4.45	226.7	<.005	<.005	<.005	No SWL taken because well was blocked by steel barrier.
Lindstrom, Pat and Linda (formally Kammerman)	203 East Groschell	No Sample	No Well	NA	--	--	--	--	--	--	--	--	No well
Marcum, Jeremie and Kerri (formally Weston)	203 Gail	EHC-0106-134	Operating	Drinking water and irrigation	7.34	15.6	256	2.48	225.1	<.005	<.005	<.005	Water sample collected from outside faucet. Well covered with dirt. No SWL taken.
Miller, Meredith	319 Washington	No Sample	Abandoned	NA	--	--	--	--	--	--	--	--	Well abandoned by pulling casing and borehole filled with bentonite.
Morrow, Richard	606 East Groschell	No Sample	No information	No information	--	--	--	--	--	--	--	--	Owner cannot be reached. No phone number.
Mosier, Shane (formally Wojcik)	105 Gail	EHC-0106-126	Operating	Drinking water and irrigation	7.26	14	274	3.28	168.9	<.005	<.005	<.005	House connected to city water but owner doesn't use city water. Owner uses well water. Sample was collected from outside frost free faucet because of soft water filter.
Nordstrom, Louise	109 Gail	EHC-0106-127	Operating	Irrigation only	7.43	13.2	267	2.87	167.6	<.005	<.005	<.005	Water sample collected from outside faucet. Well covered with dirt. No SWL taken.
Riff, John (Oxygen Plant operator)	Oxygen Plant	EHC-0106-136	Operating	Used only for cooling towers	6.54	14.5	427		96.4	0.013	0.009	0.005	Sample taken from pipe coming out of plant. Could not collect SWL due to rust in well.
Rouse, Cash and Bonnie	212 East Pacific	No Sample	Out of service	NA	--	--	--	--	--	--	--	--	No pump or electricity. Well could be sampled later.
Russ, Eleanor	115 Riggs	No Sample	No Well	NA	--	--	--	--	--	--	--	--	No well
St. Clair, Ken	107 East Groschell	EHC-0105-112	Operating	Irrigation only	7.82	14.4	609	5.94	189	0.08	0.07	0.014	Sampled in May
St. Clair, Ken	107 East Groschell	EHC-0106-145	Operating	Irrigation only	6.99	13.2	636	--	231.2	0.035	0.012	0.024	Well located inside house. Well only used for irrigation during the summer.
St. Clair, Scott	217 East Groschell	No Sample	Abandoned	NA	--	--	--	--	--	--	--	--	Well is paved over.
Vetsch, Nick	305 Gail	EHC-0106-130	Out of service	NA	7.41	14	1539	--	212	Pending	Pending	Pending	No electricity. Pump still in well. Could be sampled later. Purged 100 gallons out of well then sampled with 12 volt pump.
Yurcic, Mary (formally Romasko)	301 Gail	EHC-0106-128	Operating	Irrigation only	7.13	13.1	970	3.15	213	<.005			Sample collected from outside faucet.
Gage, Gene (formally East Helena well #3)	210 East Groschell	EHC-0106-146	No Used	Used to be fire protection for EH	6.6	12.1	575	--	165.7	<.005	<.005	<.005	Purged 400 gallons then sampled collected with 12 volt pump. Well has not been used in 20 years.

Side Note:
*(ppm) Parts Per Million
SWL = Static Water Level
NA = not applicable

Color Map(s)

The following pages contain color that does not appear in the scanned images.

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M 30246
02-T9

NORTH

SCALE
0 (In Feet) 400

LEGEND

- ■ OPERATIONAL WELL
- I IRRIGATION
- I/D IRRIGATION/DRINKING
- P INDUSTRIAL USE NON POTABLE
- * WELLS SAMPLED
- ABANDONED/NO WELL PRESENT
- ■ OUT OF SERVICE (NO PUMP OR ELECTRIC)
- ■ NO ACCESS OR PERMISSION

	EAST HELENA RESIDENTIAL WELLS	FIGURE ?

UPDATE TIME: 3:05PM
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